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| EXAMINER | |
|---|---|
| COUGHLAN, PETER D | |
| **ART UNIT** | **PAPER NUMBER** |
| 2129 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/732,741 | CAO ET AL. | |
| | Examiner | Art Unit | |
| | Peter Coughlan | 2129 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/6/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

# Detailed Action

1. Claims 1-37 are pending in this application.

***35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-37 are rejected under 35 U.S.C. 101 for nonstatutory subject matter. The claimed invention as a whole must accomplish a practical application. That is it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. This invention is an abstract concept of a classifier that takes in unclassified data and establishes two parallel classifiers. There is no tangible results or use for this invention. There must be a useful purpose in a realistic sense and not just in an abstract concept.

***35 USC § 112***

3. Claims 18, 19, 20 and 21 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. All four of these claims use the term "first certain portion". This term is not defined at all in the specification.

This term must be fully explained in an amendment or the claims must be withdrawn.

4. Claims 2 and 27 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These two claims use the term " selecting unlabeled instances (or) data". This term is not defined at all in the specification.

This term must be fully explained in an amendment or the claims must be withdrawn.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

**A person shall be entitled to a patent unless –**

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 10-13, 18-25, 27-33, 36, 37 are rejected under 35 U.S.C. 102(b) (hereinafter referred to as **Li**) being anticipated by Li, 'Word Translation Disambiguation Using Bilingual Bootstrapping'.

Claim 1.

Li anticipates receiving labeled data (**Li,** p2, C2:1-1; 'Labeled data' of applicant is equivalent to 'classified data' of Li.); receiving unlabeled data (**Li,** p2, C2:1-1; 'Unlabeled data' of applicant is equivalent to 'unclassified data' of Li.); constructing a first classifier and a second classifier using the labeled data (**Li,** p2, C2:12-24; step(1).); selecting a first uncertain portion from the unlabeled data that is uncertain with respect to the first classifier (**Li,** Figure 2 C1:7; 'ε' as in '2. for each ($\varepsilon \in E$)'. 'First uncertain portion' of applicant is equivalent to 'ε' of Li.) ; and labeling the first uncertain portion using the second classifier to form a first labeled set. (**Li,** Figure 2, C1:19; 'First labeled set' of applicant is equivalent to '(**e**, t*(**e**)) into NL' of Li)

Claim 2.

Li anticipates receiving labeled data includes receiving data assigned to classes and wherein receiving unlabeled data includes receiving data capable of being assigned to classes. (**Li,** p1, C1:25 through C2:2)

Claim 3.

Li anticipates reconstructing the first and second classifiers using at least the first labeled set. (**Li,** p5, C2:2-10; 'Reconstructing' of applicant is equivalent to 'constructs a new classifier' of Li.)

Claim 10.

Li anticipates selecting a second uncertain portion from the unlabeled data that is uncertain with respect to the second classifier (**Li,** Figure 2 C1:7; '*∂*' as in '2. for each (*∂* ∈ C)'. 'Second uncertain portion' of applicant is equivalent to '*∂*' of Li.); and labeling the second uncertain portion using the first classifier to form a second labeled set. 10(**Li,** Figure 2, C1:19; 'Second labeled set' of applicant is equivalent to '(**e**, t*(**c**)) into NL' of Li)

Claim 11.

Li teaches exchanging information between the first labeled and the second labeled set to form at least one shared set. (**Li,** abstract)

Claim 12.

Li anticipates reconstructing the first and second classifiers using the at least one shared set. (**Li,** abstract, p5, C2:2-10; 'Reconstructing' of applicant is equivalent to 'constructs a new classifier' of Li.)

Claim 13.

Li anticipates labeling the first uncertain portion includes assigning instances in the first labeled set to a first set of classes, and wherein labeling the second uncertain portion includes assigning instances in the second labeled set to a second set of classes. (**Li,** Figure 2, p2, C1:16-23; In Figure 2 L$\partial$ and L $\varepsilon$ are the labeled set of classes and 'assigning' of applicant is equivalent to 'manually' of Li.)

Claim 18.

Li anticipates selecting a first certain portion from the unlabeled data that is relatively certain with respect to the first classifier. (**Li,** Figure 2, line 10; 'First certain portion' and 'unlabeled data' of applicant is equivalent to '**e**' and '$U_\varepsilon$' of Li.)

Claim 19.

Li anticipates selecting a first certain portion includes selecting the most certain unlabeled data with respect to the first classifier. (**Li,** Figure 2, line 11; 'Most certain unlabeled data' of applicant is equivalent to $\lambda^*$(**e**) of Li.)

Claim 20.

Li anticipates selecting a first uncertain portion includes selecting data in the first certain portion. (**Li,** Figure 2, line 8; 'First uncertain portion' and 'first certain portion' of applicant is equivalent to 'ε' and NL←{} of Li.)

Claim 21.

Li anticipates selecting a first uncertain portion includes selecting data not in the first certain portion. (**Li,** Figure 2, line 8; 'First uncertain portion' and 'not in the first certain portion' of applicant is equivalent to 'ε' and UL←{} of Li.)

Claim 22.

Li anticipates constructing a first classifier and a second classifier using received labeled instances data (**Li,** p2, C2:12-24; step(1).); selecting unlabeled instances that are certain with respect to the first classifier and uncertain with respect to the second classifier data to form a first set of unlabeled instances (**Li,** p4, C1:12; 'Certain of first and uncertain of second classifier' of applicant is equivalent to $P_\varepsilon$ (**e** | t) of Li.) and selecting unlabeled instances that are certain with respect to the second classifier and uncertain with respect to the first classifier to form a second set of unlabeled instances. (**Li,** p4, C1:13; 'Certain of second and uncertain of first classifier' of applicant is equivalent to $P_\varepsilon$ (**e** | $\check{T}$ ) of Li.)

Claim 23.

Li anticipates labeling the first set of unlabeled instances using the first classifier to form a first labeled set (**Li,** p4, C1:14-16; 'First set of unlabeled instances of applicant is equivalent to '$P_{\varepsilon}^{(E)}$ (e | t) of Li.); labeling the second set of unlabeled instances using the second classifier; and to form a second labeled set (**Li,** p4, C1:14-16; 'Second set of unlabeled instances' of applicant is equivalent to $P_{\varepsilon}^{(C)}$ (e | t) of Li.); adding the first labeled set and the second labeled set to the received labeled instances to form an augmented set. (**Li,** p4, C1:17-18; 'Augmented set' of applicant is equivalent to $P_{\varepsilon}$ (e | t) of Li.)

Claim 24.

Li anticipates reconstructing the first classifier and the second classifier using the augmented set. (**Li,** p5, C2:2-10; 'Reconstructing' of applicant is equivalent to 'constructs a new classifier' of Li.)

Claim 25.

Li anticipates reconstructing the first and the second classifiers includes iteratively reconstructing the first and the second classifiers for each class of unlabeled instances. (**Li,** p5, C2:2-10, p2, C1:24-41; 'Reconstructing' of applicant is equivalent to 'constructs a new classifier' of Li. 'Iteratively' of applicant is equivalent to 'repeating' of Li.)

Claim 27.

Li anticipates receiving labeled data (**Li,** p2, C2:1-1; 'Labeled data' of applicant is equivalent to 'classified data' of Li.); receiving unlabeled data (**Li,** p2, C2:1-1; 'Unlabeled data' of applicant is equivalent to 'unclassified data' of Li.); constructing a first classifier and a second classifier using the labeled data data (**Li,** p2, C2:12-24; step(1).); selecting some of the unlabeled data that is certain with respect to the first classifier and uncertain with respect to the second classifier to form a first set of unlabeled data (**Li,** p4, C1:12; 'Certain of first and uncertain of second classifier' of applicant is equivalent to $P_\varepsilon$ (**e** | t) of Li.); and selecting some of the unlabeled data that is certain with respect to the second classifier and uncertain with respect to the first classifier to form a second set of unlabeled data. (**Li,** p4, C1:13; 'Certain of second and uncertain of first classifier' of applicant is equivalent to $P_\varepsilon$ (**e** | $\check{T}$ ) of Li.)

Claim 28.

Li anticipates receiving unlabeled data includes receiving data capable of being assigned to classes, and wherein receiving labeled data includes receiving data assigned to classes. (**Li,** p1, C1:25 through C2:2)

Claim 29.

Li anticipates reconstructing the first and the second classifier for each class. (**Li,** p5, C2:2-10; 'Reconstructing' of applicant is equivalent to 'constructs a new classifier' of Li.)29

Claim 30.

Li anticipates applying the first classifier to the first unlabeled set to form a first labeled set (**Li,** Figure 2, C1:18, left half; 'First labeled set' of applicant is equivalent to '(**e**, t*(**e**))' of Li); and applying the second classifier to the second labeled set to form a second labeled set. (**Li,** Figure 2, C1:18, right half; 'Second labeled set' of applicant is equivalent to '(**c**, t*(**c**))' of Li)

Claim 31.

Li anticipates augmenting the received labeled data with the first labeled set and the second labeled set to form an augmented set. (**Li,** Figure 2, C1:19, right and left half; 'first labeled set' and 'second labeled set' of applicant is equivalent to '(**e**, t*(**e**))' and '(**c**, t*(**c**))' of Li 'Received labeled data' of applicant is equivalent to 'NL' of Li.)

Claim 32.

Li anticipates using the augmented set of labeled data to retrain the first classifier and the second classifier to form a retrained first classifier and a retrained second

classifier. (**Li,** Figure 2 line 8; Li illustrates that using NL for selecting an 'ε' or 'λ' that is not in NL.)

Claim 33.

Li anticipates applying the first classifier to the first unlabeled set includes calculating probabilities that the first classifier is unable to assign some unlabeled data to classes. (**Li,** figure 2, lines 14-16; Li illustrates the 'top b elements into Qt' The elements that are not qualified to go into Qt is equivalent to 'unable to assign to some unlabeled classes' of applicant.)

Claim 36.

Li anticipates receiving labeled data (**Li,** p2, C2:1-1; 'Labeled data' of applicant is equivalent to 'classified data' of Li.); receiving unlabeled data (**Li,** p2, C2:1-1; 'Unlabeled data' of applicant is equivalent to 'unclassified data' of Li.); constructing a first classifier and a second classifier with the received labeled data data (**Li,** p2, C2:12-24; step(1).); selecting a portion of unlabeled data that is uncertain for the first classifier (**Li,** Figure 2 C1:7; 'ε' as in '2. for each ($\varepsilon \in E$)'. 'portion of unlabeled data' of applicant is equivalent to 'ε' of Li.); and assigning classes to the portion of unlabeled data using the second classifier to form a first labeled set. (**Li,** Figure 2, C1:19; 'First labeled set' of applicant is equivalent to '(**e**, t*(**e**)) into NL' of Li)

Claim 37.

Li anticipates selecting a portion of unlabeled data that is uncertain for the second classifier (**Li,** Figure 2 C1:7; '$\partial$' as in '2. for each ($\partial \in$ C)'. 'portion of unlabeled data' of applicant is equivalent to '$\partial$' of Li.); and assigning classes to the portion of unlabeled data uncertain for the second classifier using the first classifier to form a second labeled set. (**Li,** Figure 2, C1:19; 'Second labeled set' of applicant is equivalent to '(**e**, t*(**c**)) into NL' of Li)

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-9, 14-17, 26, 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li as set forth above, in view of Lewis ( 'A Sequential Algorithm for Training Text Classifiers', referred to as **Lewis**).

Claim 4.

Li fails to particularly call for selecting a first uncertain portion includes selecting instances of the unlabeled data as a function of uncertainty.

Lewis teaches selecting a first uncertain portion includes selecting instances of the unlabeled data as a function of uncertainty. (**Lewis,** p2, 37-48) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Li by using a function to determine what portion of unlabeled data to select as taught by Lewis to select a first uncertain portion includes selecting instances of the unlabeled data as a function of uncertainty.

For the purpose of a method defined by a algorithm for selecting unlabeled data to decrease the learning time of the invention.

Claim 5.

Li fails to particularly call for selecting instances as a function of uncertainty includes calculating probabilities.

Lewis teaches selecting instances as a function of uncertainty includes calculating probabilities. (**Lewis,** p1, c23-29; 'Selecting' of applicant is equivalent to 'sampling' of Lewis. 'Probabilities' of applicant is equivalent to the ratio generated by the equation [4].) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Li by using probabilities

within the selecting function as taught by Lewis to select instances as a function of uncertainty includes calculating probabilities.

For the purpose of generating a value that can be used in the proper selection unlabeled data.

Claim 6.

Li fails to particularly call for calculating probabilities includes calculating probabilities that the first classifier is unable to label some instances of the unlabeled data.

Lewis teaches calculating probabilities includes calculating probabilities that the first classifier is unable to label some instances of the unlabeled data. (**Lewis,** p8:19-22; If there exists a threshold, then data below the threshold is unlabeled) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Li by illustrating there is going to be cases where unlabeled data is not going to be labeled as taught by Lewis tohave calculating probabilities includes calculating probabilities that the first classifier is unable to label some instances of the unlabeled data.

For the purpose of outcome not being determined by the size of unlabeled data due to the fact a probability (ratio) is being used.

Claim 7.

Li fails to particularly call for calculating at least one value of uncertainty used to select the first uncertain portion.

Lewis teaches calculating at least one value of uncertainty used to select the first uncertain portion. (**Lewis,** p2:37-48; 'Value' of applicant is equivalent to 'measurement' of Lewis.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Li by generating a value for 'uncertainty' for future uses as taught by Lewis to have calculating at least one value of uncertainty used to select the first uncertain portion.

For the purpose of ensuring a value is generated.

Claim 8.

Li fails to particularly call for selecting a first uncertain portion includes selecting instances having uncertainty values relative to a predetermined threshold.

Lewis teaches selecting a first uncertain portion includes selecting instances having uncertainty values relative to a predetermined threshold. (**Lewis,** p8:19-22) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Li by using the value of 'uncertainity' as a threshold as taught by Lewis to select a first uncertain portion includes selecting instances having uncertainty values relative to a predetermined threshold.

For the purpose of finding selected uncertain portions for efficient improvement of the system.

Claim 34.

Li fails to particularly call for calculating probabilities includes calculating values of uncertainty.

Lewis teaches calculating probabilities includes calculating values of uncertainty. (**Lewis,** p2:37-48; 'Value' of applicant is equivalent to 'measurement' of Lewis.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Li by generating a value for 'uncertainty' from previous probabilities calculations as taught by Lewis to have calculating probabilities includes calculating values of uncertainty.

For the purpose of a numerical value being generated for further calculations.

Claim 35.

Li fails to particularly call for calculating values of uncertainty includes calculating values of uncertainty relative to a predetermined threshold.

Lewis teaches calculating values of uncertainty includes calculating values of uncertainty relative to a predetermined threshold. (**Lewis,** p8:19-22) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the teachings of Li by using the value of 'uncertainty' as a threshold as taught by Lewis to have calculating values of uncertainty includes calculating values of uncertainty relative to a predetermined threshold.

For the purpose of separating good uncertainty portions from poor uncertainty portions for efficient choices the system can utilize.

***Claim Rejections - 35 USC § 103***

Claims 9 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Li and Lewis, as set forth above, and further in view of Kokubo ( U. S. Patent Publication 20030144899, referred to as **Kokubo**)

Claim 9.

The combination of Li and Lewis fail to particularly call for selecting instances includes selecting instances having uncertainty values below the predetermined threshold.

Kokubo teaches selecting instances includes selecting instances having uncertainty values below the predetermined threshold. (**Kokubo,** ¶0134) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Li and Lewis by having the option of choosing instances that are below the uncertainty threshold as taught by Kokubo to select instances includes selecting instances having uncertainty values below the predetermined threshold.

For the purpose of having a choice of selecting instances below the threshold to slow down the learning curve of the system.

Claim 26.

The combination of Li and Lewis fail to particularly call for the computer readable medium of claim 1.

Kokubo teaches the computer readable medium of claim 1. (**Kokubo,** ¶0245) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Li and Lewis by having the system stored on a medium which a computer can use as taught by Kokubo to have the computer readable medium of claim 1.

For the purpose of storing the original version and if convergence occurred or storing an updated or augmented version of the system.

***Claim Rejections - 35 USC § 103***

Claims 14-17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Li, Lewis and Kokubo, as set forth above, and further in view of Gil ('Formalizing Spider Diagrams', referred to as **Gil**)

Claim 14.

The combination of Li, Lewis and Kokubo fails to particularly call for the first set of classes and the second set of classes are the same.

Gil teaches teach the first set of classes and the second set of classes are the same. (**Gil,** p2, Fig 1; The class B ∩ C is the same class C ∩ B, just labeled different.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Li, Lewis and Kokubo by illustrating that some data sets can be exactly the same as taught by Gil to have the first set of classes and the second set of classes are the same.

For the purpose of possible future use of deleting one of the two class due to the fact they occupy the same space.

Claim 15.

The combination of Li, Lewis and Kokubo fails to particularly call for set of classes and the second set of classes are different.

Gil teaches first set of classes and the second set of classes are different.

(**Gil,** p2, Fig 1; Class 'A' and 'B' are different because they don't occupy the same space.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Li, Lewis and Kokubo by illustrating not all data sets are exactly the same as taught by Gil to have the first set of classes and the second set of classes are the same.

For the purpose of illustrating the fact that more than one class is needed.

Claim 16.

The combination of Li, Lewis and Kokubo fails to particularly call for first set of classes and the second set of classes are mutually exclusive.

Gil teaches first set of classes and the second set of classes are mutually exclusive. (**Gil,** p2, Fig 1; Class 'A' and 'C' are mutually exclusive because they don't occupy any common space.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Li, Lewis and Kokubo by illustrating the fact that some data sets have nothing in common

as taught by Gil to have first set of classes and the second set of classes are mutually exclusive.

For the purpose of illustrating the fact there will be no ambiguity between these two classes.

Claim 17.

The combination of Li, Lewis and Kokubo fails to particularly call for first set of classes and the second set of classes overlap by having classes in common.

Gil teaches first set of classes and the second set of classes overlap by having classes in common. (**Gil,** p2 Fig 1; The shaded area between class 'B' and 'C' is the intersection between 'B' and 'C'. By definition of intersection, is the area (classes) in common between 'B' and 'C'.) It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify combined teachings of Li, Lewis and Kokubo by illustrating the fact that some data sets do have some common elements as taught by Gil to have first set of classes and the second set of classes overlap by having classes in common.

For the purpose of illustrating the fact there will be ambiguity between these two classes.

***Conclusion***

7. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

-U. S. Patent 6434518: Glenn

-U. S. Patent 6405162: Segond

-U. S. Patent 6275789: Moser

-U. S. Patent Publication 20030061023: Menezes

-U. S. Patent Publication 20030203343: Milner

-U. S. Patent Publication 20020198701: Moore

-U. S. Patent Publication 20030191626: Al-Onaizan

-U. S. Patent Publication 20020123982: Masuichi

-U. S. Patent Publication 20020087569: Fischer

-U. S. Patent 6438545: Beauregard

8. Claims 1-37 are rejected.

***Correspondence Information***

9. Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor David Vincent can be reached at (571) 272-3687. Any response to this office action should be mailed to:

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Peter Coughlan

2/28/2006

3/3/06

DAVID VINCENT
SUPERVISORY PATENT EXAMINER